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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.          | CONFIRMATION NO.       |
|--|-------------|----------------------|------------------------------|------------------------|
| 10/590,085   | 06/11/2007  | Simon Kaastra        | 3135-062458                  | 4158                   |
| 7590 11/10/2009  |             |                      |                              |                        |
| John W McIlvaine<br>The Webb Law Firm<br>700 Koppers Building<br>436 Seventh Avenue<br>Pittsburgh, PA 15219-1845 |             |                      | EXAMINER<br>CAMPBELL, THOR S |                        |
|  |             |                      | ART UNIT<br>3742             | PAPER NUMBER           |
|  |             |                      | MAIL DATE<br>11/10/2009      | DELIVERY MODE<br>PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/590,085

**Applicant(s)**

KAASTRA, SIMON

**Examiner**

/Thor S. Campbell/

**Art Unit**

3742

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 23-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 38 and 39 is/are allowed.
- 6) ☒ Claim(s) 23-37 and 40-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/088)
- Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 23-24, 26, 29-33, 37, 40-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Wade (US 941215) .

Wade discloses:

In reference to claim:

23: A device for heating liquids, comprising: a base structure 10, and at least one heating element 12 connecting to the base structure, wherein at least one non-linear channel structure 19 is arranged between the base structure and the heating element for throughflow of a liquid for heating, wherein the device comprises bias-generating means 11 to enable the base structure to connect under bias to the heating element. It is noted that applicant describes the bias-generating means as a resilient material. It is further noted that the plate 11, shown by figure to be metal material, is resilient and therefore meets the broadest reasonable interpretation of the limitation. Plate 11 serves to press (bias) the heating element 12 into intimate contact with the base 10 within the recess therein.

24: The device as claimed in claim 23, wherein at least a part of the channel structure is arranged recessed into an outer surface of the base structure. See Figure 1.

26: The device as claimed in claim 23, wherein the heating element takes a substantially plate-like form. See Figure 3

29: The device as claimed in claim 23, wherein the channel structure has an at least partly angular form. See Figure 2

30: The device as claimed in claim 23, wherein the channel structure has an at least partly curved form. See Figure 2

31: The device as claimed in claim 30, wherein the channel structure has an at least partly spiral-shaped form, wherein the channel structure is formed at least partially by at least one spirally wound strip. See Figure 2

32: The device as claimed in claim 23, wherein at least a part of the base structure directed toward the heating element takes an at least partially flexible form, and in particular is at least partly manufactured from a flexible material. Casing is made of metal. Metal is known to have some degree of flexibility.

33: The device as claimed in claim 23, wherein the base structure is formed by a plurality of separate, mutually connected base modules (10/ 22). See Figure 1.

37: The device as claimed in claim 23, wherein the heating element is displaceable relative to the base structure between a position connecting to the channel structure and a position situated at a distance from the channel structure. Element 12 can be removed from the recess by removing or loosening cover plate 11.

40: A base structure 10/11/22 comprising at least one heating element 12, wherein at least one non-linear channel 19 is arranged between the base structure and the heating element for throughflow of a liquid for heating, wherein the base comprises bias-generating means 11 to enable the base structure to connect under bias to the heating element.

41: A method for heating liquids comprising the steps of: providing a base Structure 10/11/22, and at least one heating element 12 connecting to the base structure, wherein at least one non-linear channel structure 19 is arranged between the base structure and the heating element for throughflow of a liquid for heating, wherein the device comprises bias-generating means 11 to enable the base structure to connect under bias to the heating element; a) activating the heating element; b) guiding a liquid for heating through a passage formed between the heating element and the base structure; and c) pressing the base structure under bias against the heating element.

42: The method of claim 41, wherein the liquid for heating is guided along the heating element via a channel structure.

43: The method of claim 41, wherein the liquid for heating is guided through the passage along the heating element with forming of a vapour. Vapor inherently is formed when liquid is heated.

44: The method of claim 41, wherein guiding of the liquid for heating through the passage formed between the heating element and the base structure takes place under increased pressure. The pressure is inherently increased when fluid is heated.

23: A device for heating liquids, comprising: a base structure 10, and at least one heating element connecting to the base structure 12, wherein at least one non-linear channel structure 19 is arranged between the base structure and the heating element for throughflow of a liquid for heating, wherein the device comprises bias-generating means 11 to enable the base structure to connect under bias to the heating element.

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 25, 27-28, 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wade.

Wade discloses the claimed invention except:

In reference to claim:

25: The device as claimed in claim 23, wherein at least a part of the channel structure is arranged recessed into the heating element. It is noted that the flow path is disclosed as recessed into the base but the reversal of components in a prior art reference, where there is no disclosed significance to such reversal, is a design consideration within the skill of the art.

27: The device as claimed in claim 23, wherein the channel length of the channel structure lies between 0.3 and 7 metres, in particular between 0.5 and 5 metres. Note that the optimum particular values for the channel length and cross-section could easily be determined through obvious routine experimentation. Therefore, there is no unobviousness in the values recited.

28: The device as claimed in claim 23, wherein the cross-section of the channel structure has a surface area which lies between 1 and 100 mm.sup.2, in particular between 2 and 50 mm.sup.2. Note that the optimum particular values for the channel length and cross-section could easily be determined through obvious routine experimentation. Therefore, there is no unobviousness in the values recited.

34: The device as claimed in claim 23, wherein the device is provided with a pump for pumping the liquid for heating under pressure through the channel structure.

35: The device as claimed in claim 34, wherein a pump flow rate of the pump can be regulated.

36: The device as claimed in claim 35, wherein the device is provided with sensor means coupled to the pump for regulating the pump flow rate subject to the liquid temperature in the channel structure.

The cited limitations are well known procedures with respect to fluid heating and would be obvious to one of skill looking to improve on the Wade device since the Wade device is old in concept and ripe for improvement with known techniques.

***Allowable Subject Matter***

Claims 38-39 are allowed.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Thor S. Campbell/ whose telephone number is 571-272-4776. The examiner can normally be reached on Mon-Fri 5:30AM-2:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thor S. Campbell/  
Primary Examiner  
Art Unit 3742

tsc